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IN THIS ISSUE

PAGE

1949 International Wheat Agreement . . 99

International Need for Extension Methods 103

World Poultry and Egg Picture 107

Britain's African Peanut Project 111

Refugee Resettlement on Farms in India 114

Brazilian Agricultural Policy—Part II . 116

International Agricultural News 119

FRONT COVER

A Wheat Field in Canada

Wheat is the Dominion's leading farm crop. (Photo by courtesy of Canadian National Film Board.)

BACK COVER

World Wheat Production Map

The European Continent is not only a principal wheat-producing area but also the chief market for wheat from the surplus-producing regions of the world.

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NEWS NOTES

Mr. Hambleton Back From Latin American Trip

Edson J. Hambleton, Entomologist, Technical Collaboration Branch, Office of Foreign Agricultural Relations, recently returned from Palmira, Colombia, where he attended the FAO Conference on Storage and Preservation of Grain and Other Food Products. Mr. Hambleton also visited Panama, El Salvador, and Guatemala where he consulted with Government officials on current insect problems.

Marketing Specialist Completes Tobacco Study

George W. Van Dyne, Marketing Specialist, International Commodities Branch, Office of Foreign Agricultural Relations, recently returned from a 6-month study of tobacco production and marketing in Latin America. This study was conducted under the auspices of the Research and Marketing Act.

Dr. Efferson Goes to Latin America for Rice Survey

J. Norman Efferson, Agricultural Economist for the International Commodities Branch, Office of Foreign Agricultural Relations, left early in April for a 4-month study of the major rice producing, milling, and marketing areas of Latin America. This study, conducted under the Research and Marketing Act program of the Department, is being made to obtain information that will aid the United States rice industry in planning production and marketing programs.

From March through August 1948, Dr. Efferson made a similar survey in 19 countries of the Far East, the Near East, and Europe. His comprehensive report on this study is expected to be available soon.

FOREIGN AGRICULTURE ALICE I. FRAY, EDITOR

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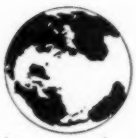
1949 International Wheat Agreement

An international agreement represents a tremendous amount of work on the part of many people. In this article, the Secretary of Agriculture tells how this new Agreement was negotiated.

By SECRETARY OF AGRICULTURE CHARLES F. BRANNAN



The new International Wheat Agreement, if put into effect, will represent a real victory for wheat farmers and wheat consumers in all the participating countries. More than that, it will constitute an important down-to-earth step in international cooperation. We could scarcely have a more basic item for cooperation than wheat.

Many people throughout the United States will want to familiarize themselves with the specific provisions of the Agreement.[1] But those provisions can best be understood when one knows something of the thinking and the negotiations that lie behind them.

The situation faced in this conference differed from the wheat conference a year earlier in several important respects. For one thing, a considerably larger number of nations accepted the invitation of the United States—57 participants and observers this year, as compared with 42 last year. I think this represents an increasing international awareness of the importance of this method of attacking problems of international trade in agricultural commodities. Of particular significance in this connection was the participation of the Soviet Union, which entered the negotiations as an important new exporter.

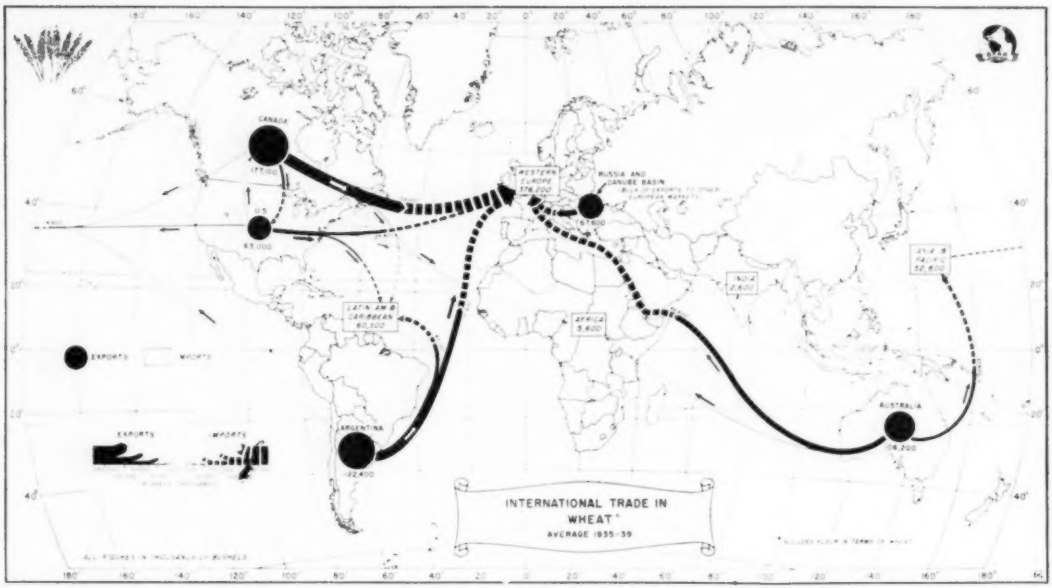
Most important, however, was the change in the world wheat situation. In the spring of 1948, when last year's agreement was negotiated, the world was still in the throes of the postwar food shortage. Europe was feeling the full effects of the severe freeze and drought of 1946–47. Wheat was at a premium. Since then, however, the world has harvested its best crop since the end of hostilities. It appeared that this year, for the first time since the war, there would be about as much wheat for export as world markets would take.

As a result of this changed supply situation, when the conference opened wheat prices in this country were about 75 cents a bushel lower than they had been a year earlier. These changes naturally weakened our bargaining power and strengthened that of the importers.

A lot of preliminary work goes into a conference of this nature. Wheat specialists in the United States Department of Agriculture had gathered together all available data about the current wheat needs of each country of the world and the probable demand and supply prospects for the next few years. Such information was invaluable to us in the bargaining process.

Before the conference, the United States delegation also determined what its position would be on the various points expected to come up. A number of key people from the Congress, the farm organizations, the grain trade, and the other interests were invited to act as advisors to the delegation. Their advice on the

[1] A summary and text of the Agreement may be obtained free from the Office of Foreign Agricultural Relations, U. S. Department of Agriculture, Washington 25, D. C.



various issues that arose during the conferences was extremely valuable.

It might be pointed out that although all nations share a common interest in reaching an agreement, the very nature of a conference of this kind divides the countries into two contending "sides"—the exporters on the one hand and the importers on the other. The interests of the importers are similar—they are all keenly interested, for example, in buying at lowest possible prices. The exporters, on the other hand, have a mutual desire to keep prices from going too low. There were other questions on which there were differences within the two groups. But the common interests generally predominated. Throughout the conference there were informal separate meetings of these two groups.

In the opening session of the conference, delegates were invited to state their general position as to the kind of agreement that we should seek.

The opening statements indicated that the basic issues would be price, duration, and quantities. The United States, Canada, and Australia took the position that they would be willing to accept the same general conditions as existed in the 1948 agreement. We pointed out that though wheat prices had gone down, the cost of producing wheat had gone up, and that one bad year could again throw the world into a position of extreme scarcity.

As might be expected, however, the importers were looking more at the present price of wheat than at our production costs. They indicated that they would expect a considerably lower price range than in last year's agreement and would prefer a 3- or 4-year agreement instead of 5.

That was the situation when we started.

Negotiations of this nature can best proceed in small groups of the key importers and exporters. In the full conference where there were 57 delegates around the table, plus their numerous advisors and observers from various international organizations, progress on controversial points was extremely slow.

So two committees were set up—one to handle prices and duration and one to handle quantities. The principal exporters and importers and representatives of the smaller exporters and importers were elected to both committees. Representatives of any other countries that wished could sit in as observers.

The conference recognized at the beginning that unless the question of prices could be settled there was little reason for working on the details of the Agreement. So that question was given priority.

Briefly, here is the history of the price negotiations:

In the opening session, the exporters stated their willingness to take the 1948 price provisions—a $2.00 maximum price and a minimum price beginning at $1.50 and dropping 10 cents each year to $1.10 the fifth year.

The importers stated that the failure to put the 1948 agreement into effect was costing them from 40 to 50 cents a bushel on 500 million bushels of wheat. That

meant a loss of millions of dollars to them and a corresponding gain for the exporters. In view of that fact and the improved world wheat situation, they insisted on much lower prices. They began by suggesting a sliding ceiling, as well as a sliding floor, and offered a 4-year agreement with ceilings beginning with $1.65 and dropping to $1.40 the fourth year. The floor would begin at $1.40 and drop 10 cents each year.

(Though I speak of what the "exporters" or the "importers" offered, it should be borne in mind that these offers never had the acceptance of *all* the exporters or *all* the importers. But they were made by substantial elements of the two sides.)

Then there was a lag, following which both sides made new proposals. The exporters offered to come down to $1.90 on the ceiling, with the same floor and duration as in 1948. The importers offered a flat ceiling of $1.65, with a 4-year agreement and a floor of $1.50, $1.40, $1.30, and $1.20. This meant that the exporters were offering to come down 10 cents on the ceiling, and the importers were willing to raise the floor 10 cents.

There the conference was stalled for a long time, with neither side offering to make the next move. One complicating factor at the time was that the United States wheat market had started to break. Within 2 days the Kansas City price fell 15 cents.

It should be borne in mind that frequently before nations can make a new offer in an important question like this, they have to cable for new instructions from their governments. Such procedure is naturally slow.

Finally the exporters offered a ceiling of $1.85, with the floor and duration the same as 1948. This was unacceptable to the importers, but they did come back with an offer of $1.75 ceiling for 4 years duration and the same increased floor they had offered before.

Now the two sides were only 10 cents apart on the ceiling and a year apart on the duration. But additional compromises were hard to get. The conference had been in session for well over a month and delegates were getting pessimistic and impatient.

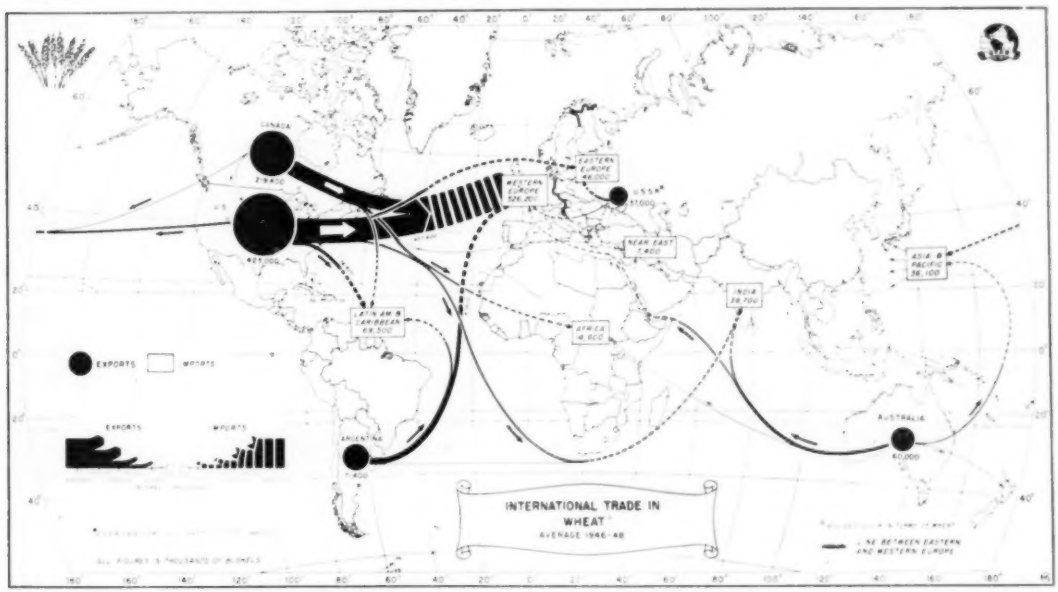
The exporters eventually agreed on a final offer. They would accept the floor and 4-year duration offer (the former of which represented a distinct gain for them) and would offer a ceiling of $1.80 a year, provided importers would guarantee to take 550 million bushels a year.

The importers counseled together and replied that they would be unable to reach the 550 million-bushel quota, but, if that could be brought down, they would make their quotas as high as possible and would be glad to consider the rest of the exporters' proposal.

The exporters agreed.

At this point delegates became considerably more optimistic and the conference began meeting in full session each day to consider the details of the 1948 agreement and to make desired changes.

But the price issue still was not settled and there were many more days of anxious waiting.



Finally the majority of the importers received their cables. They would go along, reluctantly, in order to have an agreement. When that announcement was made, excitement ran high.

But there was still another major issue to be settled—quantities. How much would the importers take and how would it be divided between the exporters? To get that story we must return to the early days of the conference.

When the quantities committee began discussions, it immediately became apparent that the importing nations would not want to accept all the wheat that the exporters wanted to sell. This was a reversal of the 1948 situation when the importers wanted *more* than the exporters were willing to guarantee. This was another reflection of the improved world wheat situation. It led some observers to conclude that many importers were less anxious for an agreement than they had been a year earlier.

Importers, in order to indicate what quantities they were willing to take, wanted to know who the exporters were. A number of countries, for example, had traditionally bought wheat from Argentina. Some had purchase agreements with Argentina, and naturally wanted to know whether Argentina expected to be a party. During the fifth conference week, the Argentine delegate announced that the price ranges being considered were not acceptable, and his Government would not expect to be a party to the Agreement.

Bread, the Staff of Life for millions of people.

When the importers had all turned in their quantity figures, the total was slightly less than 500 million bushels—about the same as the 1948 agreement. With the Soviet Union in, this would mean that the other exporters would have to take a substantial reduction in their quotas. The Soviet delegate insisted that his country must have 20 percent of the total exports covered by the Agreement.

Our first and only serious disagreement with the Soviet Union delegation arose over this matter of quantities. Our figures showed that the USSR's wheat exports in the decade of the 1920's had averaged less than 10 million bushels a year, and during the 30's about 35 million bushels a year. And some of that had gone to countries that were not in this Agreement. Since the war, as would be expected, USSR's exports had been low. FAO reported them as 6 million bushels in 1946–47 and 36 million in 1947–48. Again, much of that wheat had gone to non-Agreement countries. We attempted to estimate the amount by which the importers had increased their quotas because of the participation of the Soviet Union in the Agreement. This figure we estimated to be not more than 40 million bushels. And subsequent statements by the importers convinced us that the estimate was substantially correct.

Because of their keen desire to have the Soviet Union in the Agreement, the exporters offered it a quota of 50 million bushels. The Soviet delegate, however, was unable to approve this amount but stated that 75 million bushels would be acceptable. This was a reduction of some 25 million from the USSR's original position. The importers as a last resort offered a further compromise but found the Soviet Union unwilling to come below 75 million bushels. Faced with this impasse, the conference finally agreed to proceed without the Soviet Union. With the Soviet Union out, all the nations had to submit new figures. The final figure was 456 million bushels. Of this the United States share was 168 million bushels, Canada 203, Australia 80, France 3.3, and Uruguay 1.8 million.

With this decision made, the last barrier was past. The Agreement was formally accepted by the conference and opened for signatures on March 23.

As I said at the beginning, I firmly believe that this Agreement, if put into effect, will mean much to the farmers of the United States and will mark an important step in international cooperation in solving basic agricultural problems. Certainly the experience of administering this Agreement should teach the participating nations more about how to work together.

International Need for Extension Methods

by M. L. WILSON

By the time these lines appear in print, it is likely that a program centering around Point Four of President Truman's inaugural address will have been announced. Irrespective of the details or the organizational pattern of that program, it is generally taken for granted that it will put heavy emphasis on building a sound agriculture in countries now underdeveloped. Secretary of Agriculture Charles F. Brannan said as much in his talk at Des Moines, Iowa, on February 19. He emphasized that, while there are limits as to our material wealth, our resources in technical knowledge are continually growing. Cooperation with friendly governments in demonstrating the use of technology for developing their own resources is without doubt the most practical export commodity the United States has to offer. In providing that commodity, the United States will put to work, in an international way, the extension concept of helping people by showing them how they can best help themselves.

In November of last year, President Truman, in his address before the conference of the Food and Agriculture Organization stated in part:

"We have found our agricultural extension service essential to a high level of farm production in our own country. Through our extension service we make sure that our farmers learn about the latest advances in production techniques. This means furnishing practical information and help right on the farm. I know that the FAO is already interested in an extension service, but I wish to emphasize that the United States stands ready to help in developing such systems in other countries."

About two-thirds of the world's people are engaged in farming. Only in a very few countries, however, is the efficiency of farm production comparable to that of the United States. This is not because the resources in those countries are always poorer than ours. Nor do the people have less native intelligence if given the opportunity to eat and live in a healthy environment. The problem in many countries is that institutions have not been developed for practical ways of getting the simple everyday facts of agricultural science down to the men and women and children on the soil. Even in some quite advanced countries, with fine agricultural academic training institutions, while there may be a few scattered farms using the most modern farm practices, one still sees a primitive agriculture among peasant folks. Their loads could be lightened, and their harvests made bigger, if they learned how to use a few simple modern practices. The realization has grown in the past few years that much can be done along these lines. Through contacts established by our direct channels of government in the foreign relations field, as well as through the Food and Agriculture Organization, the Department of Agriculture has been asked time and time again for consultants and technicians who would cooperate with certain countries in studying the need for and in setting up a service com-

Students of agriculture in Guatamala learn about soils from one of their countrymen who has studied in the United States.

Home demonstration agent conducts a sewing class at Tingo Maria, Peru.

parable to cooperative extension work in the United States.

I say "comparable to" because, as many of my friends at home and abroad know, I do not believe that a system that works well in one country and in one culture can be transposed without modification to another country or another culture. But I believe that the basic principles around which cooperative extension work is organized in the United States, if adapted to fit a people, can be made to work around the world.

The development of extension work in underdeveloped countries and in countries different from ours is a difficult task. It is comparatively easy for agricultural ministries to establish government agricultural departments and experiment stations. It is a little more difficult to set up colleges of agriculture. It is far more difficult to set up extension work. To be effective, extension involves working directly with people on their home grounds. That takes time and trained leadership. Extension methods indigenous to the culture concerned are needed. In addition, research of as high an order as that in the field of agricultural production is fundamental.

Many problems are involved, including the modification of customs and traditional patterns of behavior that are centuries old. The subdivision of land holdings is one of them. Subdividing land holdings that become progressively smaller and smaller with each generation is associated with village economy throughout the world. An American, in referring to them, termed them "splintered land holdings." In some cases the size of these holdings is reduced to such a small area that it is extremely difficult to apply modern scientific technology. People cling tenaciously to these small holdings because security goes with the land.

Cases exist, however, where scientific technology has been able to dramatize its benefits and to open the minds of the people to further progress. Use of airplanes in spraying and dusting to destroy mosquitoes and other insects is a case in point. In some instances this has resulted in practically eliminating malaria. This in itself is a great educational experience that even the most backward peasant becomes aware of.

In our own country, one significant cultural change that has taken place in our rural society is the attitude of farm people toward their agricultural colleges, experiment stations, and scientific research generally. Early in this century the expression "book farming" was used disdainfully. Today it has practically disappeared from the vocabulary of rural people. Numerous foreign observers and agricultural officials of friendly governments who received their agricultural training in the United States credit this change in attitude to the Cooperative Extension Service. In their own otherwise well-developed technology, they see in our kind of agricultural extension work the missing link that has prevented the majority of the world's farmers from using science and technology in raising production and living standards.

The Nine-Area Study of 1944

In September 1944, while World War II was still at its height, the Extension Service and the Office of Foreign Agricultural Relations jointly sponsored a conference on extension methods and techniques that they felt might contribute to the agricultural rehabilitation of war-torn countries. The conference was divided into committees of persons who were well informed about the agricultural patterns, rural cultural background, educational institutions, and such extension methods as existed up to that time in nine major areas of the world. After analyzing the facts, the committees drew up some recommendations. The analysis and recommendations, compiled in a 239-page volume, have become an authentic text for reference and guidance of those responsible in the past 4½ years for the agricultural rehabilitation of war-torn countries. The report has been widely distributed among those responsible for agricultural matters in the military areas of the vanquished powers. Agricultural attachés of many friendly governments have also been greatly interested in the report and have forwarded copies to their agricultural ministries for study.

Since the 1944 conference, many countries have sent people to the United States to learn first-hand about extension methods. Many countries have also asked our Government to send professional advisers and consultants to help appraise what they are doing to get popular application of scientific agricultural and homemaking knowledge on farms, in homes, and in rural communities. People from all over the world—from Siam, from India, from Africa, from Latin America, from Europe, from everywhere—come here to see our agriculture in action. One of the things that surprises them is that, in the United States, agriculture is recognized on a level with the professions. They see and observe that here the colleges of agriculture and the Department of Agriculture have succeeded, through the partnership of cooperative extension work, in establishing a prosperous agriculture. They say: "We have to pattern after America. We have to take advantage of American experience and technical knowledge." And so the call has come increasingly for technicians from here who are familiar with the principles of extension work as these can be applied abroad.

At the recent FAO meeting the importance of educational activities of an extension character were discussed. It is the policy of FAO to help member countries develop extension services and carry out extension educational work.

At present a number of our extension workers are on loan to our Office of Military Government, helping to assist the Germans develop an extension service.

1949 Conference Planned

As a result of this increased attention placed on extension work all over the world, there have been many profitable experiences in adopting and developing educational methods to meet a wide range of needs. In order to appraise what the progress has been since 1944, especially in view of the fact that first-hand studies and applications could be made since the end of the war, a second conference to learn of the new developments and to appraise them will be held, again under the cooperative leadership of the Office of Foreign Agricultural Relations and the Extension Service. It will be held here in the Department of Agriculture, May 16 to 20.

The findings of this second conference are expected to show considerable progress. The assembled facts and recommendations will be extremely valuable to the Department and the land-grant colleges in providing the informational basis for evaluating and adjusting an effective extension training program for agricultural students and technicians coming to the United States from abroad. The findings will be equally valuable to the land-grant colleges and universities, in helping them set up a curriculum of study that will (1) give special graduate preparation to experienced agricultural workers from the United States preparing for agricultural service abroad and (2) provide training to agricultural students from abroad who are seeking to familiarize themselves with our agricultural system, including cooperative extension work.

Cultural Adaptations

Past experience has shown that extension methods, wherever they are to be used, must be adapted to the culture of the area. In applying the knowledge gained from these experiences, increasing emphasis in foreign agricultural service training will be placed on helping prospective workers understand the culture of the people whom they hope to serve. By understanding a people's culture, better assistance can be given them in a forthright and constructive manner.

In recent years, both Harvard University and Cornell University have made plans for emphasizing this field of training. There was established at Harvard University 2 years ago a graduate course that should attract students who want valuable training to prepare themselves for extension work in foreign countries. Cornell University, through its grants from Carnegie, is developing a plan for assistance in the training of extension workers for foreign service. The Department of Sociology and Cultural Anthropology at Cornell is planning now to set up field training for students of foreign extension work next summer.

At Michigan State College the Department of

Extension agents from the Chinese Ministry of Agriculture vaccinating water buffalo against rinderpest.

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Staff member, Brazil's Ministry of Agriculture (right), studies agricultural methods on a United States farm.

Sociology and Anthropology has also developed special seminars and special activities in this field. Dr. C. P. Loomis, who heads this department, has spent a great deal of time in Latin America and knows the area well. He is cooperating with the Inter-American Institute of Agricultural Sciences at Turrialba, Costa Rica, of which Ralph Allee is director.

Special Missions

In the last few years, special agricultural missions have mentioned in their reports the importance of agricultural extension to the countries concerned. This has been true of both the missions sent out by FAO and by the United States. In response to requests from member FAO countries, several agricultural missions have been sent abroad. Significant among these have been the Mission to Greece, of which President F. S. Harris of the Utah State Agricultural College was chairman; the Mission to Poland, of which Associate Director Noble Clark of the Wisconsin Agricultural Experiment Station was chairman; the Mission to Siam, of which Dr. R. H. Walker, Director of the Utah Experiment Station was chairman. In each case, these missions recommended the development of an extension service in the respective countries.

Our Government, through the Department of State and the United States Department of Agriculture's Office of Foreign Agricultural Relations, has joined different countries in the following agricultural missions: (1) China, with Vice President and Dean J. B. Hutcheson of the College of Agriculture, University of California, chairman; (2) Philippines, with Dean Emeritus L. E. Call, Kansas State College, chairman; (3) the Middle East, with President F. S. Harris of Utah State Agricultural College, chairman. (President Harris assumed chairmanship of this mission upon completion of the Greek FAO assignment); (4) Colombia, with J. Bennett Guthrie, formerly of the Virginia Extension Service, chairman; (5) Panama, with Walton P. Sellers, Louisiana Extension Service, chairman. These missions also recommended the development of extension work.

For more than a decade, our Government has worked with Latin America in various ways through programs that are administered by the Office of Foreign Agricultural Relations or coordinated with the Department of State through that agency. Many of these programs have looked towards the development of extension work in the Latin American countries and to assistance that might be given them in such development.

Foreign Students of Extension Work

In taking a world view of extension work, it might be well to take a brief look at what is being done currently in the training of extension personnel from abroad in this country. This training work in the Extension Service is under the direction of Dr. Fred Frutchey of the Extension Service's Division of Field Studies and Training here in the Department. It is conducted in cooperation with the Office of Foreign Agricultural Relations and the Department of State. During the fiscal year ended July 30, 1948, 44 persons (32 men and 12 women) took special training in extension work and methods. Twenty-five of these came from Latin America, 3 from the Far East, 15 from Europe, and one from the Middle East. In addition to these there were 106 visiting technicians who came to the Department of Agriculture and asked for special assistance in visiting extension work in this country. In this way, they were able to see it first-hand and learn something about how it is conducted in this country.

The training program has been worked out in cooperation with the Office of Foreign Agricultural Relations, the Department of State, and the countries involved. Most of the people who come for this training are graduates of colleges of agriculture in their respective countries and most of them are from ministries of agriculture and are engaged in some type of agriculture or other work in the ministry.

We anticipate a great increase in the number of people who will be sent to this country by foreign countries for extension service training.

World Poultry and Egg Picture

The flexibility of the egg and chicken industry assures it a place in the world food economy.

by **FLOYD E. DAVIS**

Statistically, the egg lost ground during World War II, except in North America, but the status of the egg and poultry industry is rapidly being restored by virtue of its position as a balancing factor in food production and consumption and a strong demand by consumers. Just as the poultry industry lent itself to a rapid curtailment without serious economic loss when countries were forced into a war economy, it was capable of quick recovery when conditions were again favorable.

In the economic recovery of Europe, the egg and poultry industry has not commanded the same strategic importance as power, fuel, transportation, steel, wheat, sugar, and fats. Nevertheless, its recuperative powers have brought about its rapid recovery, due largely to the economic factors that have made possible the expansion of the industry over the years.

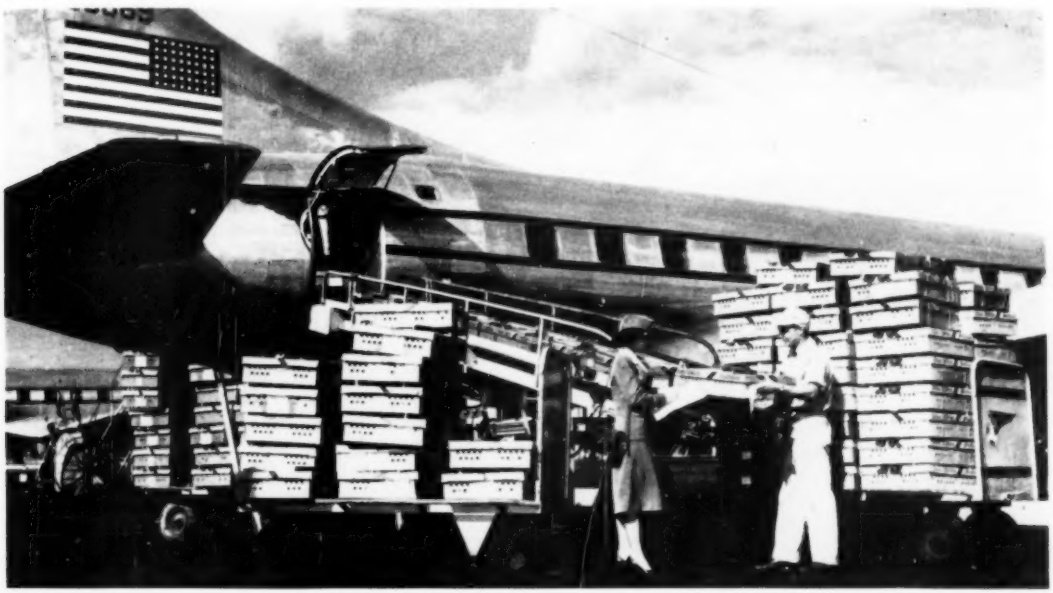
World chicken numbers are believed to have more than doubled from the beginning of World War I to the start of World War II. In 1938 there were about 1,800,000,000 chickens in countries reporting. Nearly 23 percent were in the United States and 40 percent in Europe, exclusive of the USSR. By 1945 the number of chickens in Europe had declined by about 40 percent. Increases in 1946, 1947, and 1948 brought this figure up to about 85 percent of the 1938 level.[1]

Egg production in the world probably more than doubled from 1913 to 1938 because of an appreciable increase in annual production per hen and the increase in the proportion of productive birds. A country average of 100 eggs per hen was an exception in 1913, whereas by 1948 an average of 130 had been exceeded in several countries.

Economic Status

Whether it be the pin money to rural families, the popularity of national dishes, the protective and re-

[1] For more complete statistical information on chicken numbers and egg production, see *Foreign Crops and Markets*, 58: 12, pp. 229–232, March 21, 1949.



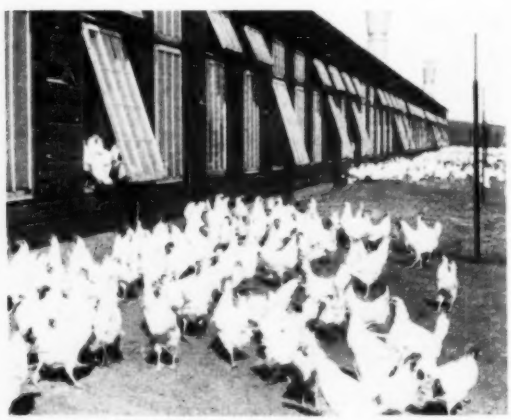
Foreign poultry growers are showing interest in improved breeding stock from the United States. This shipment of baby chicks is being flown to Latin America.

habilitative food properties for infants, children, and others, the work material of the scientist, the means of existence to the commercial producer, or a market to the producer of feed grains, poultry and eggs are of no little importance. While their value to some of these groups fluctuates, the over-all importance has gained in the last quarter century.

As an example, cash receipts from farm marketing of eggs and poultry in the United States, plus the value of products consumed in farm households, were fourth in importance among farm enterprises in 1947, amounting to $3,379,000,000. Eggs and poultry occupy a relatively similar position in the agricultural output of other principal producing countries.

There are important economic factors at work behind the commonplace nature of the egg and poultry industry that account for its prominent position. Chicken rearing and egg production can be successful on a small or a large scale, varying from the dooryard flock to large commercial enterprises. Investments can be relatively small and returns quick and relatively certain compared to enterprises requiring more than one season to pay off. Both meat and eggs can be sold. The products are readily marketable and do not have to pass through processing channels.

Like most livestock enterprises, poultry and eggs are somewhat of a balance wheel in agricultural production and consumption. Just as the dooryard or small farm flock may depend upon gleanings from the household or farm for subsistence, commercial flocks arose from gleanings from the industrial handling of grains and other food products. Commercial poultry enterprises have now developed to the point where they provide a wider outlet for grains, grain byproducts and meat, fish, and oilseed meals.



Danish chicken farm. These White Leghorns produce an average of 200 to 250 eggs per hen annually.

The efficiency of production in the egg and poultry industry is an important economic consideration. The chicken ranks relatively well as an economic user of feed, being nearly as efficient as the dairy cow. In fact, there is evidence to indicate that the chicken's efficiency to produce extends over a wider range of feed input than does that of the dairy cow. That is, beyond a maintenance ration, a hen produces in almost direct proportion to the feed given to her, whereas a dairy cow has more of an optimum level above or below which the efficiency is lowered. This attribute of chickens makes them much more of a balance wheel in the agricultural world.

In addition, chicken numbers can more easily be adjusted to feed resources than can other livestock. A hen can be in full production in about 6 months after eggs are placed in an incubator, and meat in the form of broilers can be ready in 16 weeks. In time required, the hog is the nearest competitor, requiring nearly 10 months from the time of breeding to normal marketable age.

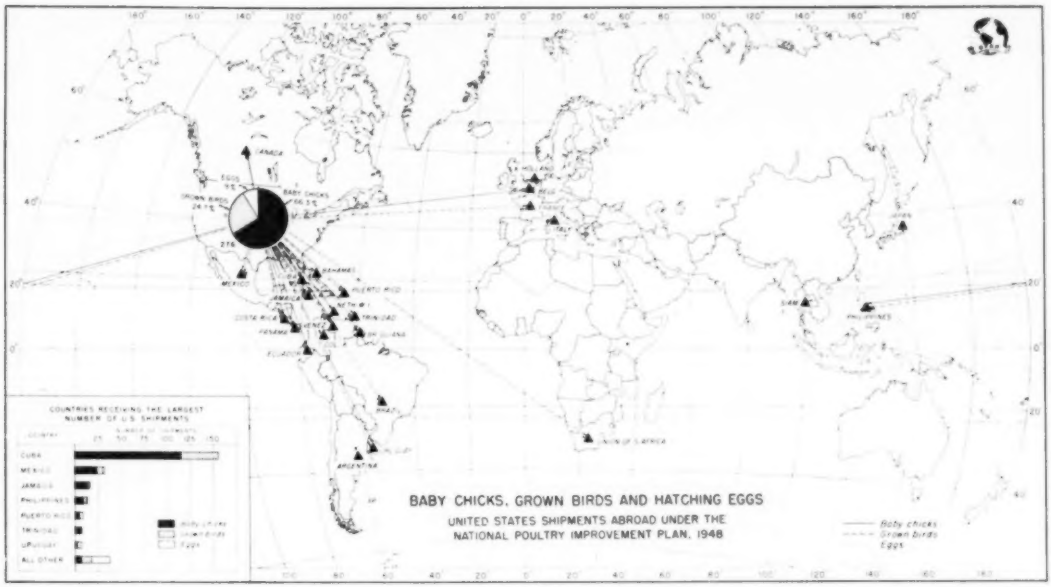
As grains and other feed items suitable for poultry increase in supply and become surplus, the poultry and egg industry can expand and convert the surpluses into more palatable foods. When food supplies become restricted due to war or nonaccessibility of imports, more of the grains and such have to be used for food. To the extent that such livestock industries as eggs and poultry exist, more adjustment is possible in times of crop failure or food shortages than when peoples are directly dependent from season to season on the crops grown.

Europe's Chicken Flocks Adjust Quickly

In line with the economic factors outlined above, the number of chickens in Europe dropped sharply at the beginning of World War II. Grains had to be closely conserved for human consumption. Conversely, with the good harvest of 1948, chicken and egg production turned up sharply.

Additional factors, such as the strong consumer demand and the ease of marketing, led to some increase in production prior to 1948 even when grain and feed supplies were short.

Adjustments in the egg and poultry industry in Europe during the war were brought about largely by the rationing of feeds. The impact fell mostly upon the larger flocks as the very small producers, generally those classed as self-suppliers, were able to keep a few


BABY CHICKS, GROWN BIRDS AND HATCHING EGGS
UNITED STATES SHIPMENTS ABROAD UNDER THE
NATIONAL POULTRY IMPROVEMENT PLAN, 1948

birds without an allocation of feed. In some countries, such as the United Kingdom, the number of such self-suppliers increased. The downward adjustments were most severe in countries largely dependent upon imported grains and other feeds. The most marked curtailment was in the Netherlands, Norway, and to a lesser extent Belgium, Denmark, Finland, Switzerland, and Austria. In such countries as France, Italy, and Germany, sufficient grain was retained on farms, despite delivery quotas, to prevent a drastic decline in chickens during the war.

After the war, controls of the industry were maintained in varying degrees into 1948. These controls included the rationing of feed and the required delivery of specified quotas of eggs at fixed prices. Gradually, however, producers were permitted to market their eggs in excess of quotas at open-market prices. This permitted individual producers in a number of countries to expand their operations as they could. Open-market prices and black-market prices were often fantastic and afforded attractive profits to producers.

Currently during the flush production season in Europe, open-market prices for eggs have dropped, bringing them more in line with controlled prices. During the coming fall and winter months, supplies of eggs are again expected to be short, and not until 1950–51 will they be somewhat normal during the entire year.

Importance of United Kingdom Market

The United Kingdom has long been recognized as the outstanding outlet for eggs entering world trade. The expansion of production in the Low Countries after World War I was largely for this market. The close proximity and relatively small-sized farms with an adequate labor supply in Denmark, the Netherlands, and Belgium contributed to the expansion. Germany and central Europe were the other important market centers, with supplies being drawn from the Danubian countries as well as from Denmark and the Netherlands. Spain also imported appreciable quantities of eggs, principally from Morocco, Belgium, and Turkey.

Trends in Production and Trade

Factors emerging as a result of World War II, as well as some that were evident prior to the war, are likely to alter somewhat the egg production and trade pattern over the next decade, compared with the 1920's and the early 1930's. To begin with, the German market is apt to be less important. Next, as an outgrowth of trends during the war, the United Kingdom is expected to retain greater self-sufficiency. The partial loss of both of these markets will seriously affect outlets for the exportable portion of production from surplus countries. This will have the greatest effect on the marginal producing countries, prin-

cipally the Balkans and Poland. Political factors are also likely to work in this direction.

The expansion of egg and poultry production in Denmark, the Netherlands, and Belgium for export after World War I developed serious difficulties. Attempts will undoubtedly be made to avert these in the next decade. The strong competition that developed for the markets in the United Kingdom and Germany resulted in unprofitable returns. Belgium was the first to cut back, and the other two countries were forced to close control and various forms of subsidization.

Adjustments within the egg and poultry industry may, however, permit a level of operation equal to or exceeding prewar. Flexibility of the industry and the possibility of better management may preserve it. More attention might be given to the production of poultry meat, especially broilers, to offset reduced supplies of other meats. A more even year-round production of eggs also offers possibilities of maintaining returns to producers.

The United Kingdom has directed attention in recent years to sources of supplies in Canada, Australia, and the Union of South Africa. While these countries are temporarily serving as a source of supply, they are not expected to be strong permanent contenders in the United Kingdom market. A modern egg and poultry industry is closely allied to supplies of byproducts from milling and food industries. These, as in the United States, accompany large populations. It is not believed that such byproducts—in Australia particularly—will exist in sufficient volume to support a large poultry industry. On the other hand, supplies of such byproducts in the traditional producing countries of Europe can be expected to support a sizable poultry industry.

Some expansion of the egg and poultry industry is expected in North African and Middle Eastern countries, but development in those countries will be restricted by considerations similar to those given above for Australia.

Large production possibilities exist in the United States, but output is expected to be geared largely to domestic demand because the principal markets, such as the United Kingdom and Germany, are expected to be short on dollars with which to purchase from the United States. If these European countries did possess dollars for such purchases, it is likely that the United States could compete with other supplying countries in January and February before the peak of their seasonal production.

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Improvement in Breeding and Poultry Husbandry

Governments in a great many countries carry on some form of program to improve the status and output of the egg and poultry industry. These vary from mere demonstration flocks, including some distribution of breeding stock, to close control over all breeding stock and egg hatching. In a good many countries, the improvement plan is on a voluntary basis, as in the United States. In the Netherlands, however, propagation of poultry flocks is closely controlled by inspection and supervision of accredited pedigree breeds, by the licensing of producers of hatching eggs, and by the licensing of hatcheries. A fixed hatching season is set by statutory regulations outside of which hatching is prohibited.

Programs for the development of the egg and poultry industry receive governmental attention both in countries producing for domestic consumption and in exporting countries.

United States Exports Accredited Stock

The following résumé of 1948 shipments, reported under the National Poultry Improvement Plan, is an indication of the movement abroad of improved breeding stock of chickens from the United States. There were 276 shipments, which went to 25 countries or possessions. Twenty-five of these shipments were hatching eggs, 183 were chicks, and 68 shipments were grown birds. By far the largest number—156—went to Cuba. Mexico got 32; Jamaica, 16; and the Philippines, 13. The geographical distribution of the shipments can be seen from the accompanying map.

Disease Control

Several countries have given more attention in recent years to preventing the introduction and spread of transmissible diseases. Fowl plague in Europe and more recently Newcastle disease in the United States and elsewhere have given a great deal of concern. A number of countries have enacted regulations prohibiting importations of breeding stock or hatching eggs from areas where specific diseases exist. While such regulations are difficult to administer, some means must be used by individual countries to prevent introduction and spread of disease. Both importing and exporting countries can take action to minimize its transmission.

Britain's African Peanut Project

by **HOWARD AKERS**

Great Britain has under way in Africa a project—the Groundnut[1] Scheme—through which it hopes to meet some of its needs for fats and oils. The plan calls for planting about 2 million acres of peanuts in Tanganyika, British East Africa.

This Scheme has become one of the most controversial agricultural projects of recent years. Undoubtedly, it will continue to be a subject of discussion for some time to come.

The British themselves are not in agreement as to the project's chances of success. Some have spoken of it as "a failure"; others have called it "magnificent." Officials working on the project have held various opinions as to the possibilities. One who has been associated with the plan since its beginning told me that although it had had some setbacks he felt that it would succeed. Other persons were critical of the alleged impracticality of the project's top leadership. One subforeman summed up this feeling as follows: "As soon as we start working with what we have, rather than what the original plan called for, we will begin to make progress." Few persons working on the project felt that it could succeed without many changes.

Since even the British cannot agree as to the value of the Groundnut Scheme, I am not attempting to appraise it in this article. I am reporting only on some of the observations I made during my visit to the project late last year and on what I was told officially about how and why it was set up.

England has always imported most of its fats and oils. Before World War II, much of its supply came from Asia. This supply generally was in the form of raw oil seeds, which were crushed in English oil-processing plants. Exportable supplies of all fats and oils were greatly reduced during the war, and since then changes in the export picture have forced the British to seek new sources of supply. Asia now uses most of its production at home, and much of the world's fats and oils today are produced in the dollar countries. Britain, of course, has had to curtail buying

[1] In the United States, groundnuts are called peanuts.

Clearing brush before planting peanuts. British East Africa.

Rail line to Kongwa peanut project. Typical landscape dotted with trees and brush.

from the latter countries because it has so few dollars to spend.

In seeking a solution to its problem, England began several years ago to study seriously the oil-production potentialities of African territories. One of the traveling directors of the United Africa Company had felt for a long time that plantation production of groundnuts in the Tropics was practical. Being familiar with Africa and African production methods, the director decided that British East Africa would be an ideal place to begin such production. The land was available and the area was not overpopulated. He presented his survey and recommendations to Britain's Minister of Food. After investigation, the British Government decided that large-scale production of peanuts would be a sound approach to the solution of the fats and oils shortage in England. At the same time, such a development would be economically beneficial to the territories in which the production would take place.

The original plan called for 107 30,000-acre plantations in Tanganyika, northern Rhodesia, and Kenya. All operations were to be mechanized, and it was anticipated that a total of 600,000 tons of peanuts could be produced by 1952 and that when full production was reached, the annual output would be about 800,000 tons. This, it was figured, would supply more than one-third of the British need for fats and oils.

In February 1947 the Scheme got under way, and approximately 7,000 acres were planted to peanuts at Kongwa, in Tanganyika, which is about 240 miles from the port of Dar-es-Salaam. When I visited this project in September 1948, the brush had been flattened on about 55,000 acres of land and was in windrows ready for burning or had already been burned. The roots had been taken out of the ground on approximately 25,000 acres, which were ready for planting.

According to the plans then, peanuts were to be planted on about 25,000 acres in December 1948 and January 1949, and, if the agricultural director decided to plant sunflowers on land that had not been rooted, another 25,000 acres were to be planted to the latter crop.

At the project at Urambo, Tanganyika, approximately 5,000 acres of land had been cleared and were to be planted in December and January.

High Lights of the Problems

From the beginning, the British have had a great many difficulties with the Groundnut Scheme. First, the port at Dar-es-Salaam was not equipped to handle the huge quantities of materials that were needed to get the project under way. Second, when the supplies and equipment were landed, ground transportation between Dar-es-Salaam and Kongwa was inadequate for moving them out to the project. Third, it was impossible to get any new equipment of the type needed when the project was begun. United States and British Army war-surplus equipment was all that was available. Most of it came from the Philippine

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Islands and did not arrive in appreciable quantity before July.

When the equipment finally came, some of the tractors were not in condition to operate, and others were used only a few months before they had to be overhauled. The agricultural director of the project stated that of the first 350 track-type tractors that arrived in Dar-es-Salaam, approximately 90 percent moved from the port under their own power, but that by November only 10 were still in operation. The British found it necessary, therefore, to construct repair stations and completely overhaul most of these tractors. In addition to all these problems, the equipment, not adapted originally to land-clearing operations, was converted to usefulness with great difficulty.

From the start it was evident that the project, because of its location, would have to be operated on a large scale. The area was infested with the tsetse fly, which lives only where there is brush and which carries the germ that causes the dread sleeping sickness. It would have been extremely hazardous to have moved a large group of natives and whites into an infested area. And only by clearing a huge tract of land could the area be rid of this fly.

In order to hasten the development, the British undertook the risk of developing this large acreage without the benefit of previous experiments in land clearing and cultivation under conditions peculiar to this tropical area. Under normal conditions, a small-scale experiment might have been desirable and might have resulted in more efficient operations. However, since only 1½ percent of the total area planned for production has been cleared, the experience gained thus far can be used advantageously.

Land Clearing and Planting

The area under development goes through three stages of preparation. The first stage is a relatively easy one. The brush, which is similar to the mesquite of the southwestern part of the United States, is flattened by large tractors and bulldozers. It is then windrowed, left until dry, and burned. The large Boabab trees, which are fairly numerous, were pushed over, too, at the outset, but they were so bulky that it was difficult to put them in windrows. These trees are now left standing because some of the native chieftains objected to their destruction—their dead were at one time buried in them.

In the second stage, a difficult one, the roots are cleared out. First the roots are cut and pulled out of the ground with a heavy root ripper, and then put in windrows to burn. This operation has been carried out with difficulty because the root cutters available have not been very effective on the roots of the bush and the pulling equipment is too light. A new cutter had been designed but had not yet been put into use when I was in Africa. Also it had been impossible to get equipment that was heavy enough to pull the roots out of the ground without great difficulty. At Kongwa, 800 heavy tractors, all surplus equipment from the war, were being used, and at Lindi, another planting area in Tanganyika, there were 5 new heavy crawler tractors that may prove to be more effective and 26 Shervek tractors, which were made from Sherman tanks. The latter, however, had not been tested for these purposes.

In the third stage of land development the ground

Peanuts from an experimental plot at Kongwa.

is plowed and planted. For this job, too, most of the operational equipment was too light. Heavy plows had to be used in front of the usual equipment. Much of the soil is hard, and even after the ground had been cultivated a year, it had a tendency to go back to its original condition. The equipment for the farming operations, similar in size and design to that used in the United States, probably will be satisfactory when the land is in proper condition. The tractors, planters, diggers, side-delivery rakes, and disks used for planting operations and soil preparation were purchased new from an American firm. Until the land is in better condition, there is more of this equipment on hand than can be used.

In 1947 the land was not in proper condition for planting. It was felt, however, that a year's experience with operating on a relatively large scale would be desirable in planning future operations. Consequently, 7,000 acres were planted and yielded about 500 pounds of shelled peanuts per acre despite the poor condition of the land. To determine production on carefully prepared ground, test plots were also established on each type of soil. Yields on these plots averaged more than 750 pounds per acre. This was the estimate of the annual production that would be forthcoming from the completed project.

Present Plans

Although the original plan called for setting up peanut plantations in Kenya, Rhodesia, and Tanganyika, the plan now is to concentrate on three projects in Tanganyika—Kongwa, Urambo, and Lindi. Fifteen 30,000-acre units will be set up at Kongwa, 10 at Urambo, and 55 at Lindi.

At Kongwa three farming units of 30,000 acres each have been started and tracer roads have been made for the entire project. The first unit is in the bush area. The second is mostly in open country, which needs only to be plowed. Most of the third unit is in the brush, and here the work is not far advanced.

Not all of this land will be planted to peanuts. Sorghum and sunflowers will be planted on some of it because of their high yield and because they can be harvested with a combine and the stalks turned back to the soil. The stalk is needed to add organic matter to make the soil more friable. Experiments are being made with Indian corn, niger, and other plants, too.

The next area being developed is at Urambo in the northwest part of Tanganyika, south of Lake Victoria. In this area, land-clearing and breaking operations are already under way.

The third and largest area planned for immediate development is at Lindi, in the southeastern part of Tanganyika. No land has been cleared here, but work has begun in developing the roads and harbors.

The land-clearing equipment will be used at Kongwa and Urambo for the next 2 years, and then it will be gradually moved to the large project at Lindi. A more diversified farming operation, providing for the production of cattle and foodstuffs for the workmen on the projects, is now being planned. The area of land planted to peanuts will be determined by a number of factors. One is the amount of suitable equipment that is available. Since peanuts can be planted only in December and January, and sunflowers from December through February, the maximum acreage possible would be planted in the first 2 months; and the rest of the land would be planted to sunflowers later. The type of soil will also determine the crop to be planted.

The project cannot at this time be considered either a success or a failure. The cost of the program thus far has been much higher than originally estimated, and production has been low. Another year of land clearing and experimenting will be necessary before techniques can be tested and progress determined.

Only after years of operation can the response of the soil to tillage and soil-improvement practices, adaptability of crops to the somewhat variable weather conditions, and the economic feasibility of the project be determined.

Refugee Resettlement On Farms in India

By **HENRY W. SPIELMAN**

India, like many other countries of the world, is faced with the problem of displaced persons. But more fortunate than most of them, India has the land on which to resettle some of its refugees. This land has not been farmed for many years, however, and must be cleared and leveled. Wells must be dug. Homes must be built for the settlers, and malaria controlled. The resettlement problem is further complicated by the fact that many of the displaced persons are accustomed to farming on the fertile irrigated

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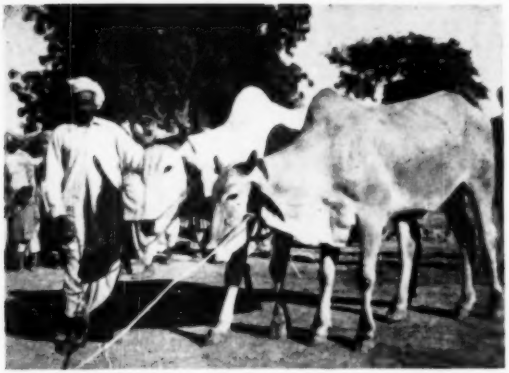


Each Indoori family is given a pair of bullocks.

plains of the Indus River and may find it difficult to adjust to the relatively rigorous farming conditions of their new homes.

The land on which the refugees are being resettled is in the southern district of North Kanara, Bombay Province, where about 65,000 acres of excellent rice land now stand idle. At one time this land was farmed, but for the past 60 years the population of the district has been decreasing. Malaria killed many of the villagers, and the survivors did the unheard of thing in India—they moved from the place of their birth. Most of them went to the sea coast or to the industrial towns. Villagers left the area not only because of the severe outbreaks of malaria but also because they could not control the wild animals that were destroying their crops. For many years, the Government ignored the farmers' appeals for help and would not permit them to use firearms. At present, 82 percent of the district is tropical forest, and tigers, bison, wild elephants, panthers, and wild pigs inhabit the area. Wild pigs probably do the greatest damage, eating and trampling the rice and sugarcane.

When the Government's reconstruction program has been completed, the area can absorb 100,000 to 150,000 of the 5 million displaced Indians. About 50 families have already been resettled, in the village of Indoori. The first arrivals came from Sind about a year ago. Since then, 15 Bombay families have moved into the colony.

The Government has allotted to each family 10 acres of land in addition to the ground for a house. It has also given each family a pair of bullocks and a set of agricultural implements. For the first year, the settlers are supplied with seed and manure. Half of the cost is borne by the Government and the remainder treated as a loan repayable in installments. Eventually, the settlers will own the land, but the Government has included a clause in the contracts that states that under no circumstances can the farms be partitioned into smaller units.

Fruit trees will be planted on the project, and farmers will be expected to raise fruits and vegetables for their own use as well as for sale in nearby towns. At present, vegetables have only a small place in the diet, and fruit is eaten only if it is free.

To prepare the Indoori colony for settlers, the Government is carrying out an ambitious program. First, it had to control malaria in the district. From June to January—the malaria season—all mosquito-breeding places are being sprayed with DDT, and paludrine is being distributed through local health centers. The incidence of malaria has dropped from 80 to 20 percent, and officials consider the area around Indoori safe for settlers.

A great deal of reconstruction work also had to be done in the area. It was necessary to rebuild tanks, dig wells, level fields, clear the jungle, and build borders around proposed rice fields. To make the tanks more useful pumps were installed to lift the water to higher ground. Several of the tanks are sufficiently large to supply not only water for irrigating rice but also for growing fruits and vegetables during the winter months.

Living quarters had to be provided for the families. The permanent houses being built on the project are of a different design and arrangement from the existing overcrowded village system in the area. It is planned that the houses will be built near the land worked by the cultivator. The colony will be arranged in groups of 30 houses. The houses will be built in a quadrangle, with a playground for children, the community well, and a general meeting place in the center. All of the communities in the colony will be within easy walking distance of each other.

The big problem for the administrators of the colony will be adjusting the Sindhi cultivators to farming conditions at Indoori. The easy-going Sindhi is used to canal irrigation and land so rich that little effort was required to produce crops. In Indoori, there is approximately 45 inches of rain a year, nearly all of it falling from June to September. During the prolonged dry periods, tank water must be used. So far, however, none of the 35 Sindhi families have left the colony.

If the resettlement experiment is successful, two more projects will be undertaken this year and later the entire 65,000 acres will be made available to refugee settlers.

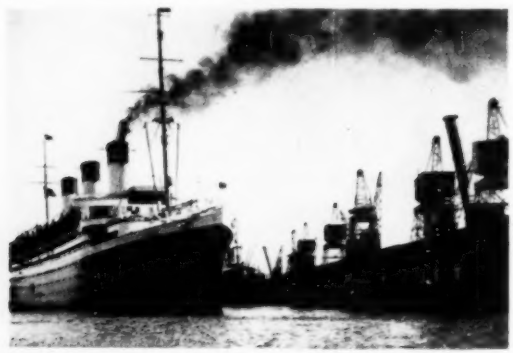
Brazilian Agricultural Policy —Part II

by DWIGHT R. BISHOP

Brazilian Government controls over foreign trade have a variety of objectives. Some of them are pointed to raising revenue by both import and export duties, protecting and promoting domestic industry, conserving and allocating foreign exchange, stabilizing prices for important foreign-trade products, and preventing shortages of essential commodities in the domestic market. There are also internal price controls on certain basic foodstuffs.

Commercial and Price Policies

BRAZILIAN TARIFF POLICY. Customs revenues have been the Federal Goverament's chief source of income for more than a century, and the tariff schedule has been one of the highest in South America. Since 1935 import duties have been reduced substantially on certain agricultural commodities through commercial treaties with other nations. Such agreements have now been concluded with nearly 40 countries, including the United States. Brazil, also, became a signatory to the multilateral General Agreement on Tariffs and Trade adopted by the United Nations at Geneva during 1947. In general, the tariff policy has been to place almost prohibitive duties on imported items that are identical or similar to those of Brazil. Rates on wheat and wheat flour, by far the most important agricultural commodities imported, have in recent years been relatively low, and, in time of acute shortages, these duties have been suspended entirely.



Port of Santos. Most of Brazil's coffee exports move out of this port.

The granting of concessions, whereby customs duties on essential supplies for new industries are eliminated or substantially reduced, has been an important feature in the administration of the Brazilian tariff. In addition to regular customs duties, other charges have been levied on products. For example, there is a port tax to finance dock construction, an ad valorem tax on cereals, a statistical tax, and an internal-consumption tax in which the imported item pays a higher rate than the identical domestic product. These charges, in effect, constitute import taxes.

Export taxes in Brazil are almost exclusively imposed by the various States rather than by the National Government. The few Federal export duties have been used to finance activities for the benefit of the particular industries concerned. Many States tax practically all major export commodities. This is an important source of revenue for State Governments.

Tax rates, as well as commodities affected, vary among States, with duties ranging from 5 to 30 percent ad valorem. A number of other State levies, such as sales, consignment, and inspection taxes, are also imposed on outgoing shipments, constituting in effect, additional export taxes. The States also collected customs duties on interstate commerce until 1943, when Executive decrees finally eliminated them. In addition, Federal law now forbids both States and municipalities to collect transit or transport taxes or in any way establish trade restrictions among the States.

Export duties collected by the States on commodities shipped out of the country have a restrictive effect on foreign trade. Existing Federal legislation, however, provides for a gradual lowering of the rates to a maximum of 5 percent ad valorem.

CONTROLS ON EXPORTS AND IMPORTS. Before World War II, Brazil established export controls to stabilize the market for important products, especially coffee. The various official and semiofficial institutes usually determined export quotas and attempted to fix market prices.

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Brazil's Senate Building. Government is an influential factor in Brazil's economy.

During the war, all important export commodities became subject to some type of national or international control. For example, export quotas on coffee were established by the Inter-American Coffee Agreement, to which Brazil became a signatory in 1940. The Brazilian Government itself prohibited exports of many other commodities, especially foodstuffs, or required an export license to prevent shortages of essential products in the domestic market.' The list of products subject to control was gradually increased, even after the end of the war. Finally in April 1948, a Federal decree was issued requiring prior licenses for all exports. For the past several years, the general policy has been to export only surplus agricultural products. This seems to be the intention of the present legislation, which states that export licenses may be denied only when it is necessary to accumulate stocks for the domestic market. Due to the lack of adequate transportation facilities exports of a given commodity have often been permitted from one region of the country and prohibited from another. The Government has sometimes banned exports even when surpluses have existed, in an effort to force prices down in the domestic market. In other cases, exports of certain raw materials, notably peppermint and ipecac, have been prohibited to insure an adequate supply for domestic industries.

Prewar restrictions on imports of agricultural products were confined chiefly to wheat and wheat flour. Since 1937, Federal regulations have required mixing of flours milled from such domestic products as manioc, corn, and rice with wheat. The percentage of domestic flours prescribed to be mixed with the imported flour has varied from time to time, with a maximum of 30 percent.

Import permits have been required for wheat and flour during most of the period since 1937 to assure observance of the mixing regulations. In April 1948, a Federal decree required prior license for all imports except cement, pharmaceuticals, and certain necessary foodstuffs, including wheat and flour. Later in the year, wheat and and flour were also placed under license control. This legislation is intended to conserve foreign exchange by reducing imports and also to provide further protection for domestic industries.

EXCHANGE CONTROL. Owing to the world-wide depression beginning in 1929, the coffee market collapsed, and prices of other export commodities rapidly fell. On the other hand, prices of essential imports did not drop to the same extent. As a result, Brazil exhausted practically all of its gold reserves by 1930. Exchange control, therefore, was adopted the following year, with the requirement that all foreign-exchange transactions be conducted through the Bank of Brazil. This monopoly continued through most of the 1931–34 period, the Bank allocating available ex-

change according to the needs of the economy. During this period, the supply of exchange was generally insufficient for essential imports, a condition that resulted in an illegal, or curb, market. Exchange for the curb market was secured through clandestine transactions, and quotations in terms of milreis per unit of foreign currency were considerably higher than the official rate.

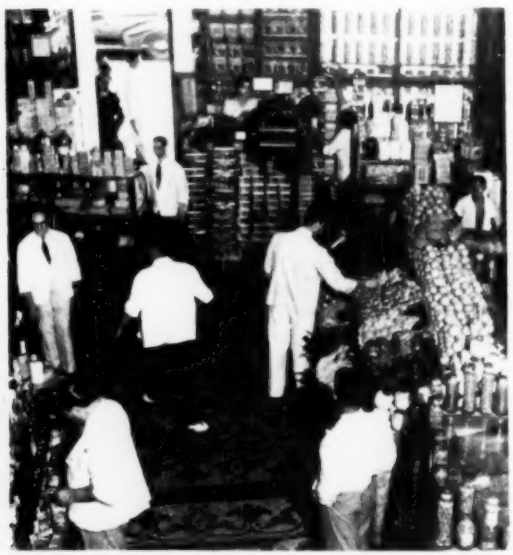
Unable to halt illegal exchange operation, the Government adopted a more liberal control policy in 1934. Commercial banks were permitted to buy and sell exchange derived from sources other than exports at open-market rates. All exchange derived from exports, however, continued to be handled exclusively by the Bank of Brazil at the official rate. Later, exchange acquired from all exports, except coffee, was freed from control, and in 1935 all exporters were permitted to sell their bills to banks at the prevailing quotations. Banks were in turn required to deliver 35 percent of this exchange to the Bank of Brazil at the official rate, while the remaining 65 percent constituted the source of the free market.

A 3-year period of relatively liberal exchange policy was marked with a return to a monopoly of exchange transactions by the Bank of Brazil at the end of 1937.

This monopoly was again removed in 1939, and exporters once more could sell their bills in the free market. Banks purchasing free exchange were required to resell 30 percent to the Bank of Brazil at the official rate. At the beginning of 1948, this proportion was increased to 75 percent. An exchange tax, imposed in 1937, originally amounted to 3 percent of the exchange transactions, but the rate was raised to 6 percent the following year for most operations. Since 1939, the tax on all exchange business has amounted to 5 percent, except for a period of suspension during 1947.

PRICE CONTROLS. Until World War II, the Brazilian Government used price controls to guarantee minimum prices to producers and exporters in certain industries important to the nation's foreign trade. During the war, additional controls, designed to protect consumers from inflation, were imposed.

The Government established ceiling prices on practically all food products entering the domestic market. Some of the more scarce commodities were rationed. Retail meat sales could be made only on a certain number of days a week, and consumption quotas were fixed for the principal population centers. Although ceilings were revised upward a number of times and violations were common, indications are that prices would have advanced more rapidly had price control and rationing not been in effect. Ceilings have been continued on the more essential foodstuffs since the termination of hostilities.



Prices of most essential foods still are controlled in Brazil.

Outlook

The present trend points toward an increase both in number and in scope of Governmental controls. Periods of overproduction and low prices have in the past led to drastic controls over the industry concerned, and a similar policy can be expected when such conditions reoccur. During and immediately after the war, many of the institutes and executive commissions acquired broad powers, which gave them extensive control over most agricultural industries. Further consolidation of authority and extension of such controls to other industries would seem inevitable whenever a declining world market results in the accumulation of surpluses. Export restrictions, under which a permit is now required for all outgoing shipments, will doubtlessly be relaxed as domestic shortages of commodities important to the national economy are alleviated. Import controls are to be regarded as more permanent, their retention being considered essential for the duration of exchange shortages. Depletion of hard-currency balances during the postwar years has resulted in a tightening of exchange controls with more restrictive measures in prospect as reserves decline to lower levels.

INTERNATIONAL *Agricultural News*

Colombia Honors Dr. Molina

The Colombian Government has conferred upon Dr. Ciro Molina Garces its highest decoration for distinguished service to the nation—the Cruz de Boyacá. So far as is known, this is the first time that this honor has been given an agriculturist. Dr. Molina served for many years as Secretary of Agriculture in the Valle del Cauca. He founded the Agricultural Experiment Station at Palmira and was instrumental in the founding of Facultad Nacional de Agronomía at Cali-Palmira. He has made many other contributions to the agricultural progress of the nation and is regarded as an elder statesman in agricultural matters.

Guatemala Livestock Improvement

The Government of Guatemala, during 1948, imported 282 purebred farm animals for distribution to various agricultural stations throughout the country and established a livestock research center at Retalhuleu, says a report of accomplishments of the Ministry of Agriculture.

International Plowing Contest

The increasing mechanization of European farms was apparent at the fifth international plowing contest held in County Londonderry, Northern Ireland, early this year. The hundred-odd contestants from Eire, England, Scotland, the Isle of Man, Ulster, and Canada used twice as many tractor-drawn as horse-drawn plows in the matches.

This annual contest is judged on the basis of the straightness and depth of the furrows, the turning of the ends, and the general appearance of the plowed field. Individual championships went to T. J. Murray, County Down, in the horse section, and to William Prentice, County Londonderry, in the tractor section. In the visitors' class, Canada won the first three places.

Quebec Bans Oleomargarine—In Effect

The Government of Quebec now has the right, if it finds it advisable to do so, to regulate or ban the manufacture, importation, sale, or possession of oleomargarine or other butter substitute. The bill granting this permission was passed early in March.

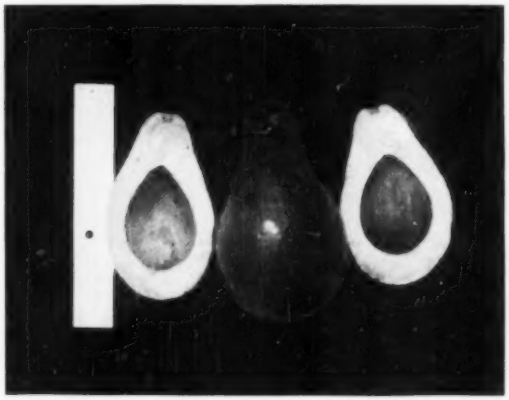
The regulation of butter substitutes became a provincial responsibility as the result of a recent decision by the Supreme Court. For several years, there has been disagreement in Canada on the Federal Government's right to ban oleomargarine. The question was finally passed to the Supreme Court for decision, and in December it ruled that regulation of the product was a provincial matter.

New Avocado Found in Dominican Republic

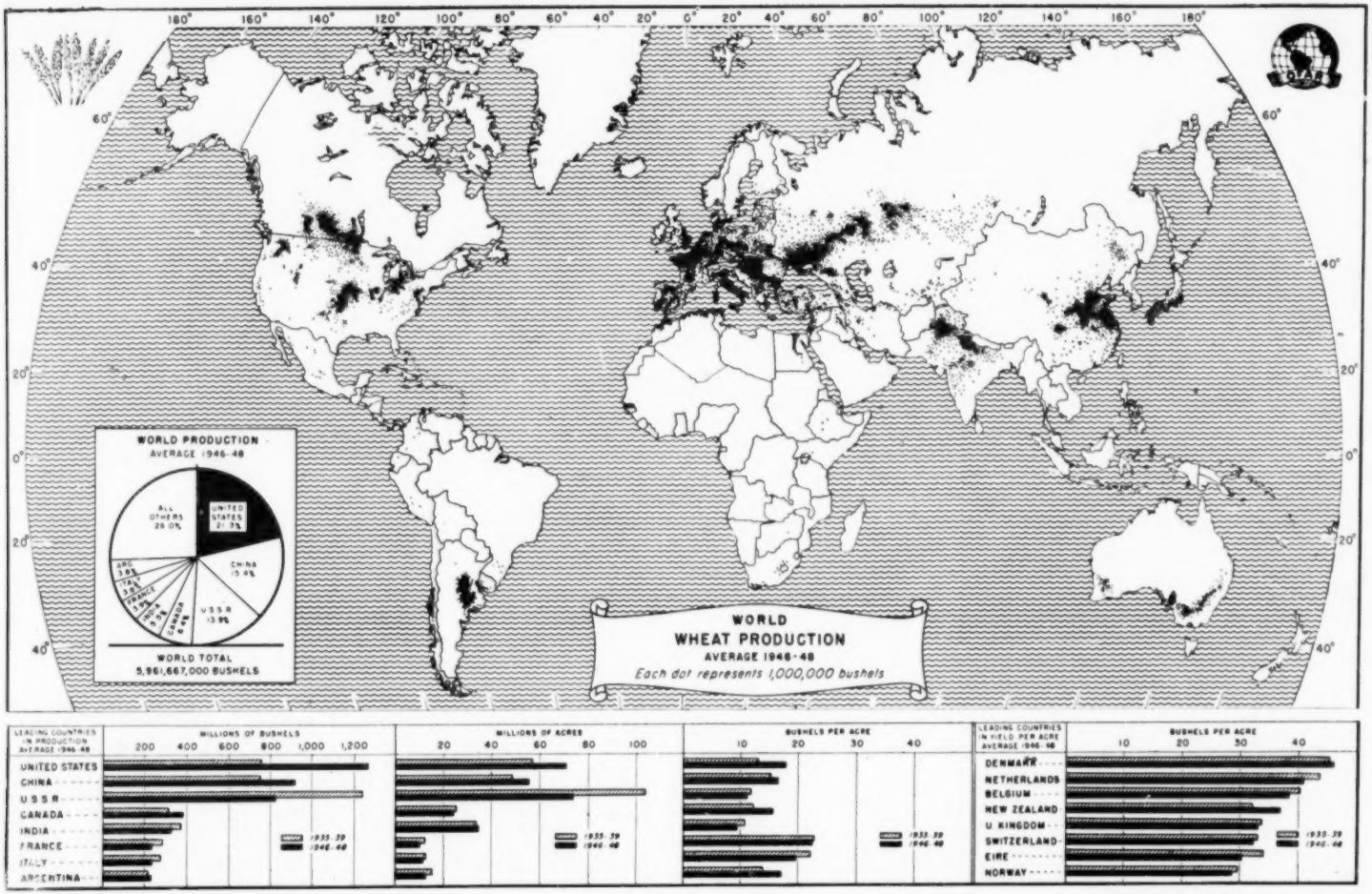
A development of nature has given rise to a new avocado, yellow in color and of excellent quality, in the Dominican Republic's fertile Cibao Valley. A tree bearing the yellow avocado appeared on a farm near the little town of Castillo. The farmer, noting that the ripe fruit was yellow in color, rather than the usual green, called it to the attention of Señor Juan Pablo Duarte M., the Dominican Republic's Agronomist in charge of Agricultural Investigations. Later, Señor Duarte discussed the new fruit with Howard F. Allard, who is with the United States Department of Agriculture, and his father, Dr. Harry A. Allard, formerly with the Department. They advised further propagation of the variety. As a result, a number of seedlings of the green-fruited stock have been successfully budded with the new yellow type.

The new avocado is of medium size, has a smooth skin, and is pear-shaped, similar to the Calavo. The quality of the flesh is excellent with a buttery consistency and a decided nutty flavor at maturity. It might well be popular in the American market because of its attractive appearance and quality.

The Allards suggest that this unusual avocado be named the *Castillo* in honor of the little town near which it appeared as a seedling.



Green-skinned avocado between two halves of the new yellow variety.



The world's wheat-producing areas lie between latitudes 30° and 55° N. and 20° and 40° S. In these areas, climatic and soil conditions are especially suitable for large-scale wheat production.